REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-32 are pending in the present application with Claims 8-25 withdrawn from consideration. Claims 1 and 26 are amended by the present amendment.

In the outstanding Office Action, Claims 1-7 were rejected under 35 U.S.C. § 112, second paragraph; Claims 1, 4-7, 26, and 29-32 were rejected under 35 U.S.C. § 102(b) as anticipated by Parker et al. (U.S. Patent No. 4,910,450, herein "Parker"); and Claims 1-7 and 26-32 were rejected under 35 U.S.C. § 102(b) as anticipated by Chambers et al. (U.S. Patent No. 6,469,469, herein "Chambers").

Regarding the rejection of Claims 1-7 under 35 U.S.C. § 112, second paragraph, Claims 1-7 have been amended to recite that a motor includes a controller and the controller includes coil on/off switching means and coil current control means. The claim amendments find support in Figure 4 and its corresponding description in the specification. No new matter has been added. Accordingly, it is respectfully requested this rejection be withdrawn.

Regarding the rejection of Claims 1, 4-7, 26, and 29-32 under 35 U.S.C. § 102(b) as anticipated by Parker, independent Claims 1 and 26 have been amended to recite that a coil on/off switching unit performs switching operations between an on-state in which current is supplied to coils and a first off-state in which the coil terminals are open-circuited when a high-level control signal is received and between the on-state and a second off-state when a low-level control signal is received. The claim amendments find support in the specification, for example in the paragraph bridging pages 44 and 45. No new matter has been added.

Briefly recapitulating, independent Claim 1 is directed to a motor that has a controller that includes a coil on/off switching unit and a coil current control unit. The coil on/off switching unit performs switching operations between an on-state in which current is

supplied to coils, and a first off-state in which the coil terminals are open-circuited when a high-level control signal is received. Also, the coil on/off switching unit switches between the on-state and a second off-state in which the coil terminals are short-circuited when a low-level control signal is received. Independent Claim 26 has been amended similar to independent Claim 1.

In a non-limiting example, Figure 1 shows the on-state, the open-circuited state that corresponds to the first off-state, and the short-circuited state that corresponds to the second off-state. Further, the coil of the motor can be schematically represented by an inductance L and a resistance R as explained in the specification in the paragraph bridging pages 44 and 45, and also in the paragraph bridging pages 38 and 39. The on-state is achieved when a switch S1 is closed and a switch S2 is open, the first off-state is achieved when both switches S1 and S2 are open, and the second off-state is achieved when the switch S1 is open and switch the S2 is closed to short-circuit the coil.

In addition, Applicants note that a three-phase motor has three coils and each coil is independently controlled and Figure 37 illustrates only one coil and the switches that control the respective coil.

Turning to the applied art, Parker shows in Figure 1 a three-phase motor 10 that is controlled by a three-phase solid state switch 112 as shown in more detail for example in Figure 5. However, Figure 5 and its corresponding disclosure of Parker do not teach or suggest that each of the three coils 14a, 14b, and 14c of the motor 10 are connected to a voltage source via two switches such that various combinations of closing/opening states of the switches produce an on-state in which current is supplied to the coils, a first off-state in which the coil terminals are open-circuited, and a second off-state in which the coil terminals are short-circuited, as required by amended Claims 1 and 26.

The outstanding Office Action states at page 2, numbered paragraph 4, that Parker discloses at column 8, lines 27-33, that the coil terminals of the motor 10 are open-circuited. However, Parker discloses at column 8, lines 27-33, that an electrode FET 124 that belongs to an AC power proportioning switch 106 as shown in Figure 1, has on and off positions. However, there is no indication on the record that the FET 124 of the AC power proportioning switch 106 switches on and off the coils 14a, 14b and 14c of the motor 10 as required by amended Claims 1 and 26. It is noted that the FET 124 of the AC power proportioning switch 106 will affect the electronics of the single phase-to-three phase converter 401 shown in Figure 1 (shown in more details in Figure 4).

In addition, Parker does not teach or suggest a coil on/off switching unit that performs a switching operation between an on-state in which current is supplied to the coils of the motor and a first off-state in which the coil terminals are open-circuited and between the on-state and a second off-state in which the coil terminals are short-circuited.

Accordingly, it is respectfully submitted that independent Claims 1 and 26 and each of the claims depending therefrom patentably distinguish over Parker.

The rejection of Claims 1-7 and 26-32 under 35 U.S.C. § 102(b) as anticipated by Chambers is respectfully traversed for the following reasons.

Chambers is directed to a variable output induction motor that, as shown in Figure 1, has a power modulator 36 for each phase A, B and C of the motor 12. As disclosed by Chambers at column 11, lines 20-35, the power control generator 36 modulates the DC input power from a DC power source with variable frequency and variable amplitude to generate a variable frequency, variable amplitude sine wave current signal 59 which is shown in Figure 4.

However, Chambers is silent about a coil on/off switching unit that performs a switching operation between an on-state in which current is supplied to the coils of the motor

and a first off-state in which the coil terminals are open-circuited and between the on-state and the second off-state in which the coil terminals are short-circuited.

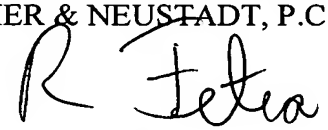
The outstanding Office Action refers to column 3, line 62 to column 4, line 10 and to column 22, lines 22-37, of Chambers for indicating that the coils of the motor are open-circuited. However, Chambers discloses in the above-noted paragraphs that a primary winding appears as an open-circuit if a secondary circuit is not loaded, a situation that is unrelated to the coils of the motor being switched between the on-state and the first off-state and between the on-state and the second off-state. In other words, the motor of Chambers does not three different states, i.e., an on state, a first off-state in which the coil terminals are open-circuited, and a second off-state in which the coil terminals are short-circuited as required by amended Claims 1 and 26.

Accordingly, it is respectfully submitted that independent Claims 1 and 26 and each of the claims depending therefrom patentably distinguish over Chambers.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Bradley D. Lytle
Attorney of Record
Registration No. 40,073
Remus F. Fetea, Ph.D.
Limited Recognition No. L0037

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

BDL:RFF\la
I:\ATTY\RFF\24s\245938\245938US-AM.DOC